WHAT IS CLAIMED IS:

- 1. An improved web-winding device comprising a generally cylindrical support structure having an outer web wrapping surface for receiving at least one convolution of a web, an inner annular surface joined to said support structure for mating with a web-winding machine, wherein said inner annular surface has a wear rate coefficient of less than about 3.0×10^{-7} m³/Nm.
- 2. The web-winding device recited in claim 1 wherein said inner annular surface comprises a material having a composition including about 20 wt-% glass bead and polybutylene terphthalate.
- 3. The web-winding device recited in claim 1 wherein said inner annular surface comprises a thermoplastic polyester polybutylene terphthalate resin.
- 4. The web-winding device recited in claim 1 wherein said inner annular surface comprises a thermoplastic polyester resin blend having polybutylene terphthalate/polycarbonate (PBT/PC).
- 5. The web-winding device recited in claim 1 wherein said inner annular surface comprises a thermoplastic polyester resin blend having polybutylene terphthalate/polycarbonate-silicone copolymers (PBT/PC).
- 6. The web-winding device recited in claim 1 wherein said inner annular surface comprises a thermoplastic polyester amorphous polycarbonate (PC) resin.
- 7. The web-winding device recited in claim 5 wherein said thermoplastic polyester amorphous polycarbonate (PC) resin comprises a filler material of at least 2 wt.-% of a low-density polyethylene resin.

- 8. The web-winding device recited in claim 1 wherein said thermoplastic polyester resin and thermoplastic polyester resin blends are semi-crystalline.
- 9. The web-winding device recited in claim 1 wherein said thermoplastic polyester resin and thermoplastic polyester resin blends are modified amorphous resins.
- 10. The web-winding device recited in claim 7 wherein said filler material comprises a material selected from the group consisting of: PTFE, low density polyethylene, silicone fluids, and fatty acid amides.
- 11. The web-winding device recited in claim 1 wherein said generally cylindrical support structure has a tensile strength at 3.2 mm of about 52 MPa.
- 12. The web-winding device recited in claim 9 wherein said generally cylindrical support structure has a tensile elongation at 3.2 mm of about 200 percent.
- 13. The web-winding device recited in claim 10 wherein said generally cylindrical support structure has a flexural strength at 3.2 mm of at least 83 MPa.
- 14. The web-winding device recited in claim 11 wherein said generally cylindrical support structure has a flexural modulus at 3.2 mm of about 2,300 MPa.

15. The web-winding device recited in claim 12 wherein said generally cylindrical support structure has a Rockwell R hardness of about 117.